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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/534,108

04/12/2006

Ian Faye

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5595

26646 7590 07/17/2007  
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EXAMINER

MCGRW, TREVOR EDWIN

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

07/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/534,108

Applicant(s)

FAYE ET AL.

Examiner

Trevor McGraw

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-26, 28-30 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Examiner's Comment***

For the purposes of this Office Action, Examiner is not giving any patentable weight on the intended use language "A dosing device for a liquid fuel comprising:" as recited by Applicant in Claim 19.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19-21, 25 and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruetsch (US 2,914,258).

In regard to Claims 19-21, 25 and 28-30, Ruetsch (2,914,258) teaches a dosing device for a liquid where a metering device (22,23) is configured to meter a liquid into a metering conduit (12) and a nozzle body (16) that adjoins the metering conduit (12) and has spray discharge openings (18) that open into a metering chamber (4) where the nozzle body (16) projects with a spherical portion (Figures, 1, 2 and 3) at a spray discharge end into the metering chamber (4, Figure 1) having the spray discharge openings (18) distributed over the spherical portion of the nozzle body (16) that is shaped in a hollow cylindrical fashion at the end face of the metering conduit (Figures 1 and 2) and is threadedly engaged with the metering conduit (Figure 2). Ruetsch also teaches that the discharge openings are asymmetrical with respect to the center axis of

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the nozzle body (16) where the tilt of the center axes of the spray discharge openings is also asymmetrical with respect to the center axis of the nozzle body (16) where the operating pressure of the metering device injection valve (22,23) operates with liquid pressure below 10 bar.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19-26, 28-30, 36 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Raskin (US 2,933,259).

In regard to Claims 19-26, 28-30, 36 and 38 Raskin (US 2,933,259) teaches a dosing device for a liquid fuel having at least one metering device that is configured to meter fuel into a metering conduit and a nozzle body (Figure 1, 2, 3 and 4; Column 2 Line 60-Column 4, Line 70) that adjoins to the metering conduit has different diameter spray discharge openings (21,22) that open into a metering chamber where the nozzle body projects with a spherical portion (Figure 2) at a spray discharge end into a metering chamber having spray discharge openings distributed over the spherical portion of the nozzle body where the nozzle body is shaped in a hollow cylindrical fashion at an end facing the metering conduit (Figure 1 and 2) and is threadedly engaged with the metering conduit (Figures 1, 2 and 3) where the spray discharge openings have a common intersection point (Figure 2) that is located on a center axis of the nozzle body (Figure 2) and located such that the openings and tilt are asymmetrical

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with respect to a center axis of the nozzle body (Figure 2). Raskin also teaches where a metering conduit has at least a reduced wall thickness and a reduced wall thickness region along an axial extent (Figure 1, 2 and 3) and an air inlet with which a gas can be introduced into a metering conduit (Column 3, Lines 52-67) where the dosing device of Raskin is capable of being adapted to input the fuel into a chemical reformer to recover hydrogen.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19, 21 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raskin (US 2,933,259) in view of Kappel et al. (US 6,311,950).

In regard to Claims 19, 21 and 37, Raskin discloses the claimed invention except for welding the nozzle body through laser welding to the metering conduit. However, Kappel et al. (US 6,311,950) teaches that it is old and well known in the art to utilize laser welding as another form of securing and attaching separate pieces of material together in a rigidly fastened manner. Therefore, it would have been obvious to one having ordinary skill in the art at the time the present invention was made attach the nozzle body to the metering conduit of Raskin with the laser welding techniques of Kappel et al. in order to securely fasten two pieces of material together to prevent air gaps.

### ***Response to Arguments***

#### **Objection to Specification**

Examiner withdraws the objection to the specification in view of Applicant's amendment to specification that adds "e.g., a low-pressure fuel injection valve that operates with fuel pressures of up to 10 bar." and further makes note that new matter has not been entered.

#### **Objection to Drawings**

Examiner withdraws the objection to the drawings. Although adding the "discharge openings" to Figure 5 would assist the Examiner in clearly understanding the present invention, there is no requirement that features be shown in every Figure.

#### **Rejection under 35 USC § 102(b)**

Examiner withdraws the rejection against Claim 26 in view of Applicant's arguments. However, Applicant's arguments filed 04/05/2007 have been fully considered but they are not persuasive as a whole. Examiner makes note and agrees with Applicant's assertion that the Ruetsch reference has a conical shaped tip portion on the nozzle body. Conversely, Examiner holds the position that Ruetsch additionally teaches a spherical portion of the nozzle body where the discharge openings are located. Applicant is directed to Figure 2 that clearly shows discharge openings located on a spherical portion of the nozzle body and not at the conical tip portion of the nozzle body. Claim 19 recites limitations for "the nozzle body projects with a spherical portion at a spray-discharge end into a metering chamber, and the spray discharge openings

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are distributed over the spherical portion of the nozzle body.” Examiner maintains the rejection of 35 USC § 102(b) against Claims 19-21, 25 and 29-30 and further emphasizes that Ruetsch meets the claim limitations as reflected in the above rejection.

Examiner makes note to Applicant that Claims 28 and 29 were intended to be rejected under 35 USC § 102(b) to Raskin and was a typographical error. Line 1 of the Raskin rejection should read as “Claims 19-26, 28-30 and 36 are rejected...” as reflected in line 3 of the Raskin rejection.

Applicant's arguments filed 04/09/2007 have been fully considered but they are not persuasive. Applicant's assertion that the spray discharge openings of Raskin do not open directly into a metering chamber is unfounded. As it can be clearly shown in Figure 4 of Raskin the metering chamber into which fluid flows into from the spray discharge openings 21,22 communicates unobstructed to the metering chamber and at least some fuel travels directly into the metering chamber passing through 24 unhindered. Examiner also makes note to Applicant that a direct line of communication can be established through the central line axis of the spray discharge openings to the metering chamber. Thus, for the forgoing reasons, Examiner maintains the rejection held under 35 USC § 102(b) to Raskin against Claims 19, -26, 28-30 and 36.

**Rejection under 35 USC § 103(a)**

Applicant's arguments with respect to claims 19, 21 and 37 have been considered but are moot in view of the new ground(s) of rejection of Raskin in view of Kappel et al. (US 6,311,950).

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trevor McGraw whose telephone number is (571) 272-7375. The examiner can normally be reached on Monday-Friday (2nd & 4th Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trevor McGraw  
Art Unit 3752

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